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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,993

06/12/2006

Wilhelm Kraemer

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SUITE 2800

SEATTLE, WA 98101-2347

EXAMINER

POOS, JOHN W

ART UNIT

PAPER NUMBER

4125

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/582,993	<b>Applicant(s)</b> KRAEMER, WILHELM	
	<b>Examiner</b> JOHN W. POOS	<b>Art Unit</b> 4125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-8 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/12/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Regarding claim 5, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
3. Claims 6 and 7 recite the limitation "high frequency switches" in lines 4 and 6 and lines 2 and 3 respectively. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 5, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Otaka (US 5,796,286).

#### **In regard to Claim 5 (as taught in Figure 2):**

Electronic high frequency switch with a field effect transistor (Q11) as the switching element, whose switching condition is controlled via the gate voltage fed from a gate voltage source (Vdd) and is controlled by means of a control circuit between a switching on value and switching off value (Vdd and Gnd), characterized in that the size of the gate voltage fed from the

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gate voltage source is selectable by a changeover device (S11) depending on the desired linearity or switching speed (for example, -5V or -8V).

**In regard to Claim 7 (as taught in Figure 2):**

Attenuator with a plurality of electronic high frequency switches (Q11, Q12) according to claim 5 or 6, characterized in that the size of the gate voltage of at least some of the high frequency switches is switchable between at least two values (I11, Gnd, I12, Gnd).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otaka (US 5,796,286), in view of Barta (US4,975,604).

**In regard to Claim 6:**

All of the claim limitations are discussed with respect to Claim 5 above, except for a correction device in which, for the different gate voltage values, corresponding different

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correction values for additional high frequency properties of the high frequency switch (transmission or reflection) are stored which, depending on the gate voltage chosen, are used for correcting these additional high frequency properties of the high frequency switch.

Barta (604) teaches a correction device (Figure 2: 12) in which, for the different gate voltage values, corresponding different correction values for additional high frequency properties of the high frequency switch (transmission or reflection) are stored which, depending on the gate voltage chosen, are used for correcting these additional high frequency properties of the high frequency switch (Column 5: lines 40-53).

Therefore it would have been obvious to one skilled in the art at the time of the invention to use the correction device taught by Barta (604) with the attenuator taught by Otaka (286) in order to provide low return-loss characteristics for various attenuations over a broad microwave range (Column 2: lines 20-22).

**In regard to Claim 7:**

All of the claim limitations are discussed with respect to claims 5 and 6 above, and Otaka (286) further teaches an attenuator with a plurality of electronic high frequency switches (Figure 2: Q11, Q12) according to claim 5 or 6, characterized in that the size of the gate voltage of at least some of the high frequency switches is switchable between at least two values (I11, Gnd, I12, Gnd).

**In regard to Claim 8:**

All of the claim limitations are discussed with respect to claims 5-7, and 5, 7 above, except for a correction device in which, depending on the frequency of the high frequency signal fed to the attenuator, correction values for compensating for the frequency-dependent junction

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loss of the electronic high frequency switch are stored, characterized in that in the correction device, different frequency response correction values are stored for the different gate voltage values of the high frequency switches and that the changeover device for the gate voltage is coupled to this correction device such that, depending on the selected size of the gate voltage, the respective associated frequency response correction values for controlling the attenuation member connected on the line side are used.

Barta (604) teaches a correction device (Figure 2: 12) in which, depending on the frequency of the high frequency signal fed to the attenuator, correction values for compensating for the frequency-dependent junction loss of the electronic high frequency switch are stored, characterized in that in the correction device, different frequency response correction values are stored for the different gate voltage values of the high frequency switches and that the changeover device for the gate voltage is coupled to this correction device such that, depending on the selected size of the gate voltage, the respective associated frequency response correction values for controlling the attenuation member connected on the line side are used (Column 5: lines 40-53).

Therefore it would have been obvious to one skilled in the art at the time of the invention to use the correction device taught by Barta (604) with the attenuator taught by Otaka (286) in order to provide low return-loss characteristics for various attenuations over a broad microwave range (Column 2: lines 20-22).

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sasabata et al. (US 2002/0196098), Goodell (US 2001/0007430), Constantine et al. (US 2001/0033206) all respectively teach a high frequency switch and variable attenuator.

***Communication***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN W. POOS whose telephone number is (571)270-5077. The examiner can normally be reached on M-F (alternating Fridays off), E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on 571-272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W. P./  
Examiner, Art Unit 4125  
/Charles D. Garber/  
Supervisory Patent Examiner, Art Unit 4125